AB 868 Fuel Delivery Temperature Study

Business Meeting

Hearing Room A

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Primary AB 868 Requirements

- The Energy Commission shall evaluate and compare the following options for temperature compensation:
  - Retaining the current reference temperature of 60 degrees Fahrenheit
  - Establishing a different statewide reference temperature
  - Establishing different regional reference temperatures for the state
  - Requiring the installation of temperature correction or compensation at the pump
- Conduct public hearings on the results of the cost-benefit analysis and report to the Legislature regarding recommended legislation and regulations based on the results of the study

Stakeholder Review

- The Energy Commission convened an Advisory Group
  - 26 members representing equipment manufactures, consumer groups, fuel industry, agricultural commissioners/sealers of weights and measures, representatives of government agencies, and other interested parties
- The Energy Commission held four public workshops and one advisory group meeting
  - January 24, 2008 - Staff Workshop
  - March 4, 2008 - Staff Workshop
  - April 23, 2008 - Advisory Group Meeting
  - June 5, 2008 - Staff Workshop
  - December 9, 2008 - Committee Workshop on Staff Report

The “Hot Fuel” Issue

- Like many other liquids, fuel experiences expansion and contraction with temperature change
- For gasoline, a volume occupied by a gallon will expand by 1 percent for each 15 Degree Fahrenheit increase in fuel temperature
- The warmer the fuel, the less energy and fewer miles to the gallon (231 cubic inches) a vehicle will achieve

The "Hot Fuel" Issue

- Wholesale fuel transactions are measured in net or standard gallons that are equal to 231 cubic inches at 60 Fahrenheit
- Retail fuels sales at California service stations are measured as gross or non-standard gallons that are 231 cubic inches regardless of temperature
- Wholesale transactions compensate by adjusting the cost of the entire load
- Instead, automatic temperature compensation (ATC) equipment at retail would adjust the volume (cubic inches) of fuel dispensed based on the temperature

ATC Benefits

- ATC equipment would compensate for warmer fuel by increasing the quantity of gasoline or diesel fuel dispensed to consumers per unit of sale – each "gallon" would be slightly larger in cubic inches
- The retailers would view a change to ATC as selling fewer nominal "gallons"
- Large expected benefits are perceived by some stakeholders that assume retailers will not raise their prices
- The report concludes that retailers will likely raise their prices to compensate for selling fewer "gallons" and to capture the expense to install and maintain the ATCs

Price Transparency Benefits

- If ATC was mandated for use at retail stations, consumers would be able to more accurately and fairly compare prices to make better decisions because variations in temperature would be corrected by the ATC equipment
- California consumers, as a whole, could expect a financial benefit of approximately $258,000 per year due to this increased price transparency

ATC Costs

- Initial modifications to retail stations estimated to cost between $104 million to $127 million
  - Initial year cost of $11,000 to $13,000 per station
  - A gradual phase-in over five years would reduce the initial costs by $9 million to $28 million
- Recurring costs of $7 million to $21 million per annum
- Total costs would average between eight hundredths (8/100) and 18 hundredths (18/100) of a cent per gallon
- Retail station owners are assumed to pass these costs through to the consumer over 10-15 years

Cost-Benefit Analysis Results

- There was a net cost to society under all of the various scenarios of temperature compensation examined in this report
- The concept of increased fairness for motorists has been raised by some stakeholders as a type of benefit that has not been quantified in the cost-benefit-analysis

Study Recommendations

- If the ***only criterion*** for assessing the merit of mandatory ATC installations for use at California retail stations is a net benefit to consumers, ATCs should not be required since the results of the cost-benefit analysis show a net cost for consumers
- The Legislature may consider whether the value of increased fairness, accuracy, and consistency of fuel measurement, justifies mandating ATC at California retail stations
  - This value has not been quantified as part of the study
- The Legislature may:
  - (1) require all retail stations to retrofit their fuel dispensers over a two-year period, or
  - (2) a gradual phase-in approach, requiring new and refurbished stations to install, ***but not activate***, ATC devices over a five-year period

Study Recommendations

- If the Legislature chooses not to mandate the use of ATC at retail stations the Legislature may wish to:
  - (1) clarify whether the current intent of the existing statutes is to permit or prohibit voluntary ATC at retail outlets for gasoline and diesel fuel
  - (2) direct the California Division of Measurement Standards to develop standards addressing equipment approval, certification testing, compliance enforcement, and consumer labeling provisions for ATC at retail stations
- Establishing a new statewide reference temperature, or different regional reference temperatures for the state, would not successfully address temperature compensation at the retail level in California and the Commission does not recommend this approach

Areas for Further Research

- The value of increased fairness, accuracy, and consistency benefits of ATC to consumers should be estimated through focus groups and survey methods that assess consumers' willingness to pay for such benefits
- The value of increased price transparency associated with ATC should be refined through further research on the fuel temperature variation between adjacent retail stations